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Paper No. 25

UNITED STATES PATENT AND TRADEMARK OFFICE

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Ex parte MIHAIL STEFANOPULOS, HANS ERNST
and
DANIEL SAEGESESSER

Appeal No. 2003-1254
Application No. 09/284,793

ON BRIEF

Before STAAB, McQUADE, and NASE, Administrative Patent Judges.
NASE, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 6 to 8.
Claims 10 to 12, the only other claims pending in this application, have been allowed.

We REVERSE.

BACKGROUND

The appellants' invention relates to a clamping device for saw blades, in particular in motor-driven straight-back and saber saws (specification, p. 1). A copy of the claims under appeal is set forth in the appendix to the appellants' brief.

The prior art reference of record relied upon by the examiner in rejecting the appealed claims is:

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|------------------------------|-----------|---------------|
| Strömberg et al. (Strömberg) | 5,357,836 | Oct. 25, 1994 |
|------------------------------|-----------|---------------|

Claim 6 stands rejected under 35 U.S.C. § 102(b) as being anticipated by Strömberg.

Claims 7 and 8 stand rejected under 35 U.S.C. § 103 as being unpatentable over Strömberg.

Rather than reiterate the conflicting viewpoints advanced by the examiner and the appellants regarding the above-noted rejections, we make reference to the answer (Paper No. 23, mailed January 14, 2003) for the examiner's complete reasoning in support of the rejections, and to the brief (Paper No. 22, filed November 4, 2002) for the appellants' arguments thereagainst.

OPINION

In reaching our decision in this appeal, we have given careful consideration to the appellants' specification and claims, to the applied Strömberg patent, and to the respective positions articulated by the appellants and the examiner. As a consequence of our review, we make the determinations which follow.

The anticipation rejection

We will not sustain the rejection of claim 6 under 35 U.S.C. § 102(b) as being anticipated by Strömberg.

To support a rejection of a claim under 35 U.S.C. § 102(b), it must be shown that each element of the claim is found, either expressly described or under principles of inherency, in a single prior art reference. See Kalman v. Kimberly-Clark Corp., 713 F.2d 760, 772, 218 USPQ 781, 789 (Fed. Cir. 1983), cert. denied, 465 U.S. 1026 (1984).

Claim 6 reads as follows:

A clamping device for motor-drive straight-back and saber saws fixable to a lifting rod, the clamping device comprising
a clamp holder;
a movable clamping piece arranged relative to said clamp holder so that a saw blade can rest between said clamp holder and said movable clamping piece, said clamping piece having a first side which faces toward said clamp holder and

has a surface adapted to abut against the saw blade, and also a second side which is remote from said clamp holder and has a wedge-shaped surface;

a wedge piece having a wedge-shaped surface abutting against said wedge-shaped surface of said clamping piece and also having an opposite surface;

a first spring acting on said wedge piece in a direction essentially perpendicular to a displacement direction of said clamping piece so as to move said clamping piece into a position of repose so that said first surface of said clamping piece presses against the saw blade; and

a second spring acting on said clamping piece so as to press said clamping piece against said wedge piece.

Strömberg's invention relates to a device for retaining knife blades for cutting, perforation or other treatment of a running web, preferably a paper web, whereby the web runs between a rotatable knife-retaining cylinder and a counter pressure cylinder knife blade cooperates with a wedge device which is adapted to wedge up the knife blade in a slot in the knife-retaining cylinder. Thus, the knife blade can be wedged up by means of the wedge device by being brought into the slot by means of the counter pressure cylinder. The wedge device cooperates with a height-adjustment device which is adapted to permit setting of the wedge device at such height in the slot that the wedge device is able to wedge up a knife blade of a certain defined dimension. The wedge device comprises two rulers having downwardly inclined wedge surfaces relative to the slot. The wedge device preferably comprises at least one spring means which is provided to affect the rulers in vertical direction relative to each other in order to retain the rulers and the knife blade in the slot until they are wedged up therein.

As shown in Figures 1-7 of Strömberg, retaining device 1 is adapted for retaining a knife blade 2 on a rotatable knife-retaining cylinder 3. The knife blade 2 is adapted for cutting, perforating or otherwise treating a running web 4, preferably a paper web, which, for example, runs through a printing press (not shown). The web 4 runs through a space between the knife-retaining cylinder 3 and a rotatable counter pressure cylinder 5 and is shown with dashed and dotted lines in Figure 1. The knife-retaining cylinder 3 has a number of slots 6 wherein knife blades are wedged up by means of a wedge device K. The wedge device K comprises a retaining ruler 7 which is adapted to retain the knife blade against one side wall 8a of the slot 6. The wedge device K also comprises a tightening ruler 9, disposed beside the retaining ruler 7 and adapted to engage the opposite side wall 8b of the slot 6. The retaining ruler 7 has a wedge surface 10¹ facing the tightening ruler 9 and extending in a direction sloping downwards relative to the slot 6. The wedge surface 10 of the retaining ruler 7 cooperates with a corresponding wedge surface 11 on the tightening ruler 9.

Strömberg's retaining ruler 7 includes a support portion 12 through which the blade 2 displaces the retaining ruler 7 during an adjustment maneuver. This support portion 12 may be provided on different portions of the retaining ruler 7 and may have various designs. A suitable position for the support portion 12 is down below on the

¹ The lead line for wedge surface 10 is incorrect in Figure 3 and correct in Figures 2 and 4.

retaining ruler 7 as shown in, for example, Figure 2. The wedge device K cooperates with a height-adjustment or height-setting device H, which is adapted to permit setting of the wedge device K at such a height in the slot 6 that the wedge device is capable of wedging up a knife blade 2 of a certain defined dimension. This height-adjustment device H may include one or more screws 13 which are screwed into the tightening ruler 9 and protrude downwards as legs through which the tightening ruler 9 engages the bottom 14 of the slot 6, or a protective strip 15 disposed on the bottom 14 of the slot 6 and made of a harder material than the material in the knife-retaining cylinder 3. The heads of the screws 13 are accessible from above so that the screws can be screwed down or up with a tool, whereby the tightening ruler 9 can be lowered or raised in the slot 6.

In order to ensure that Strömberg's rulers 7, 9 and knife blade 2 remain in the slot 6 until they are wedged up therein resilient means 16 is provided to affect the rulers 7, 9 vertically relative to each other. These resilient means 16 (there are preferably a plurality thereof) are compressible by manually displacing the retaining ruler 7 upwards relative to the tightening ruler 9 until the total width of both rulers 7, 9 and the blade 2 is less than that of the slot 6. The rulers 7, 9 with the blade 2 are in this condition insertable into the slot 6, whereafter they are released. Thereby, the resilient means 16 will displace the retaining ruler 7 relative to the tightening ruler 9,

which means that the total width of the rulers 7, 9 and the knife blade is increased until they are fixed in the slot 6. The resilient means may consist of helical compression springs 16, which, down below, engage the retaining ruler 7 and, on top, engage the tightening ruler 9.

In order to efficiently wedge up Strömberg's knife blades 2 in the slot 6, the wedge device K comprises and/or cooperates with at least one spring means 17 disposed beside the wedge device in the slot 6 and compressible, upon insertion of a knife blade 2 into the slot 6 for wedging up thereof, to a dimension which lies within such an interval (e.g. 0.5 mm) that it permits insertion of those knife blades 2 into the slot 6, the dimensions of which differ from the certain, defined dimension and lie within such a certain, defined range of tolerance including the defined dimension. The spring means 17 has, when compressed to a dimension within the interval, such a spring force that knife blades 2 having dimensions within the range of tolerance are retained in the slot 6. The spring means 17 is preferably mounted in the slot 6 such that it in compressed condition occupies the width of the slot 6 between the side walls 8a, 8b thereof together with the wedge device K, knife blade 2 and eventually further members disposed beside each other in the slot 6 when the knife blade 2 is wedged up therein. The spring means 17 preferably consists of such resilient material which is compressible, and which essentially maintains the resilient properties obtained by the

compression. The resilient material of the spring means 17 is preferably polyurethane, and the spring means 17 can have the shape of an elastic strip or similar of polyurethane.

Strömberg's spring means 17 is preferably arranged such that the tightening ruler 9 engages the side wall 8b of the slot 6 through the spring means 17. Furthermore, that side 9a of the tightening ruler 9 facing the side wall 8b of the slot 6 may be provided with at least one recess 9b for the spring means 17, which is of such thickness that it protrudes out of the recess 9b and engages the side wall 8b of the slot 6. That portion 17a of the spring means 17 situated outside the recess 9b has, for example, a width of 0.3-1.0 mm, preferably about 0.5 mm. Furthermore, the spring means 17 preferably has a height which exceeds half the height of the tightening ruler 9. Additionally, a plurality of spring means 17 are preferably disposed along the tightening ruler 9, preferably on the portions thereof located between the height-adjustment screws 13 provided thereon.

Figure 5 of Strömberg is a schematic view of the retaining device before wedging up the knife blade. The original shape of the spring means 17, before the knife blade 2 is wedged up in the slot 6, is shown. By means of the height-adjustment device H, the wedge device K is set at a height in the slot 6 adapted for wedging up knife blades 2 of

a certain defined height X . As is shown, the spring means 17 has a width of, for example, a total of 2 mm, whereby the portion 17a thereof located outside the recess 9b is, for example, 0.5 mm wide.

Figure 6 of Strömberg is a schematic view of the retaining device with wedged up knife blade with a certain, defined height. The spring means 17 is compressed when the knife blade 2 with the height X is wedged up. As shown, the spring means 17 has been compressed such that the portion 17a thereof located outside the recess 9b is reduced to, for example, 0.3 mm. The spring means 17 hereby exerts a substantially remaining spring force such that the knife blade 2 is retained in the slot 6.

Figure 7 of Strömberg is a schematic view of the retaining device with the knife blade wedged up with a greater height. The spring means 17 has permitted a knife blade 2 with the height $X+0.2$ to be wedged up in the slot 6 while maintaining the height position of the wedge device K. Here, the spring means 17 has been compressed more than in the embodiment described above, such that the portion 17a thereof located outside the recess 9b is reduced to, for example, 0.1 mm.

Strömberg's spring means 17 permits mounting of knife blades 2 deviating from a certain, defined dimension regarding their height and/or width, provided that the

deviations in dimension lie within a certain, defined interval. The dimensions of the spring means 17 may vary in such a way that it can be compressible from its original shape to between 0.1-1.0 mm and/or such that it permits application and retention of knife blades 2, the height of which varies within an interval of up to, for example, ± 0.4 mm and the width within an interval of up to, for example, ± 0.3 mm. In addition, Strömberg teaches (column 5, lines 9-13) that "[e]ach spring means 17 can, for example, alternatively consist of a helical spring or an elastic pad of rubber or similar and it can be mounted in other ways than at a tightening ruler without losing its function."

In the anticipation rejection before us in this appeal, the examiner (answer, p. 3) read claim 6 on Strömberg² by determining that Strömberg discloses all the recited elements of the invention as follows:

- a) a clamp holder (Strömberg's cylinder 3);
- b) a movable clamping piece (Strömberg's retaining ruler 7) having a first side having a surface and a second side having a wedge-shaped surface (Strömberg's wedge surface 10);

² The inquiry as to whether a reference anticipates a claim must focus on what subject matter is encompassed by the claim and what subject matter is described by the reference. As set forth by the court in Kalman v. Kimberly-Clark Corp., 713 F.2d 760, 772, 218 USPQ 781, 789 (Fed. Cir. 1983), cert. denied, 465 U.S. 1026 (1984), it is only necessary for the claims to "'read on' something disclosed in the reference, i.e., all limitations of the claim are found in the reference, or 'fully met' by it."

- c) a wedge piece (Strömberg's tightening ruler 9) having a wedge-shaped surface (Strömberg's wedge surface 11) and an opposite surface;
- d) a first spring (Strömberg's helical compression springs 16); and
- e) a second spring (Strömberg's spring means 17).

The appellants argue (brief, pp. 9-10) that the patent to Strömberg describes a clamping device as defined in claim 6 except for the claimed second spring (i.e., "a second spring acting on said clamping piece so as to press said clamping piece against said wedge piece"). The appellants point out that their second spring 5 acts on the clamping piece 2 so as to press the clamping piece 2 against the wedge piece 4 to permit release of the saw blade 8 whereas Strömberg's spring means 17 acts on the wedge piece (Strömberg's tightening ruler 9) so as to press the wedge piece (Strömberg's tightening ruler 9) against the clamping piece (Strömberg's retaining ruler 7) to wedge up the knife blade 2. Thus, the claimed second spring and Strömberg's spring means 17 act in essentially opposite directions to perform different functions.

In response to this argument, the examiner (answer, pp. 4-5) stated that the second spring limitation (i.e., "a second spring acting on said clamping piece so as to press said clamping piece against said wedge piece") does not specify the direction of force of the second spring and therefore is readable on Strömberg's spring means 17

since the spring means 17 acts on the wedge piece (Strömberg's tightening ruler 9) and on the clamping piece (Strömberg's retaining ruler 7) via the wedge piece so as to press the clamping piece against the wedge piece.

In our view, the second spring limitation (i.e., "a second spring acting on said clamping piece so as to press said clamping piece against said wedge piece") does specify the direction of force of the second spring (**acting** on the clamping piece so as to **press** the clamping piece **against** the wedge piece) and therefore is not readable on Strömberg's spring means 17 for the reasons set forth by the appellants.

Since all the limitations of claim 6 are not disclosed in Strömberg for the reasons set forth above, the decision of the examiner to reject claim 6 under 35 U.S.C. § 102(b) is reversed.

The obviousness rejection

We will not sustain the rejection of claims 7 and 8 under 35 U.S.C. § 103 as being unpatentable over Strömberg.

In the obviousness rejection before us in this appeal, the examiner (answer, p. 4) determined that the additional limitations set forth in dependent claims 7 and 8 would

have been obvious at the time the invention was made to a person of ordinary skill in the art. However, in making this rejection, the examiner assumed that all the limitations of parent claim 6 were disclosed in Strömberg. Thus, even if the additional limitations set forth in dependent claims 7 and 8 would have been obvious under 35 U.S.C. § 103, the examiner has not set forth any basis why the claimed subject matter as a whole (i.e., including the limitations of parent claim 6) would have been obvious under 35 U.S.C. § 103. Specifically, the examiner has not set forth any basis or evidence as to why it would have been obvious at the time the invention was made to a person of ordinary skill in the art to have modified Strömberg to have a second spring acting on the clamping piece (Strömberg's retaining ruler 7) so as to press the clamping piece against the wedge piece (Strömberg's tightening ruler 9).

Since the examiner has not established that the claimed subject matter as a whole would have been obvious under 35 U.S.C. § 103 for the reasons set forth above, the decision of the examiner to reject claims 7 and 8 under 35 U.S.C. § 103 is reversed.

CONCLUSION

To summarize, the decision of the examiner to reject claim 6 under 35 U.S.C. § 102(b) is reversed and the decision of the examiner to reject claims 7 and 8 under 35 U.S.C. § 103 is reversed.

REVERSED

LAWRENCE J. STAAB
Administrative Patent Judge

JOHN P. McQUADE
Administrative Patent Judge

JEFFREY V. NASE
Administrative Patent Judge

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Appeal No. 2003-1254
Application No. 09/284,793

Page 15

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